

Application Serial No. 09/807,704
Reply to Office Action of January 3, 2006

PATENT
Docket: CU-2513

LISTING OF CLAIMS

This listing of the claims will replace all prior versions and listings of claims in the application

Claims 1-34 (cancelled)

Claim 35. (new) An improved oil separation process for production of a composition free of denatured proteins from a material comprising lipids and proteins, said material having a biological origin, the process comprising the steps of:

- (a) predetermining a denaturing temperature of a material comprising lipids and proteins;
- (b) rapidly freezing the material;
- (c) mechanically treating the material;
- (d) heating the material to a working temperature, wherein said working temperature is below the denaturing temperature; and
- (e) separating a composition comprising protein and at least one of the group consisting of fat and lipid, said composition being free of denatured proteins.

Claim 36. (new) The process according to claim 35, wherein the freezing and heating steps are performed repetitively.

Claim 37. (new) The process according to claim 35, wherein in the freezing step the material is frozen to a temperature of 0°C to -50°C, preferably to a temperature of 0°C to -6°C.

Claim 38. (new) The process according to claim 35, wherein the step of mechanically treating of the material is at least one of the group consisting of grinding, milling, chopping and pressing.

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Claim 39. (new) The process according to claim 35, wherein the material is a grax.

Claim 40. (new) The process according to claim 35, wherein the composition further comprises trace elements.

Claim 41. (new) The process according to claim 20, wherein said trace elements are vitamins.

Claim 42. (new) The process according to claim 35, further comprising isolating at least one component of said composition.

Claim 43. (new) The process according to claim 35, wherein the process is performed under at least one of a vacuum and under an inert atmosphere.

Claim 44. (new) The process according to claim 35, further comprising adding a pre-treatment compound to the material prior to mechanically treating the material.

Claim 45. (new) The process according to claim 44, wherein said pre-treatment compound is at least one of the group consisting of: an enzyme, a solvent, an emulsion-bursting material, and an emulsion-inhibiting solution.

Claim 46. (new) The process according to claim 35, further comprising adding a pre-treatment compound to the material subsequent to mechanically treating the material.

Claim 47. (new) The process according to claim 46, wherein said pre-treatment compound is at least one of the group consisting of an enzyme, a solvent, an emulsion-bursting material, and an emulsion-inhibiting solution.

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Claim 48. (new) The process according to claim 35, wherein at least one anti-oxidant is added in at least one step of the process.

Claim 49. (new) The process according to claim 35 wherein in the denaturing step the denaturing temperature is determined by visual observation.

Claim 50. (new) The process according to claim 35, wherein in the denaturing step the denaturing temperature is determined by viscosity measurement.

Claim 51. (new) The process according to claim 35, wherein the freezing of the material occurs at a rate of approximately 1° C per minute.

Claim 52. (new) The process of claim 35, wherein step (a) further comprises the steps of:

- (i) determining a first lowest temperature at which any protein in the material starts to denature; and
- (ii) determining a second temperature below said first lowest temperature, at which no proteins denature.